

Computer Applications

This course is designed to develop computer technology skills. Students will use a variety of computer software and hardware tools and features of an electronic information network. Students will explore the, historical, social and ethical issues of using computer technology. The students will develop skills that will assist them with efficient production; accurate production analysis; management of information and design and presentation of a multimedia project.

Recommended Prerequisites Keyboarding

Suggested Prerequisite or concurrent with: Keyboarding/ Word Processing Essentials

Grades: 9, 10,

Recommended Credit 1 Credit

Standard 1.0

The student will evaluate the impact and applications of computers in society.

Standard 2.0

The student will apply skills appropriate to the resident operating system.

Standard 3.0

The student will research and apply knowledge of ethical and legal issues within the industry.

Standard 4.0

The student will research and apply typography, layout, design, and composition concepts and guidelines for preparation of documents.

Standard 5.0

The student will accurately create a variety of word processing documents.

Standard 6.0

The student will create and design spreadsheets to produce and manipulate alpha/numeric data.

Standard 7.0

The student will develop database skills to organize and maintain information.

Standard 8.0

The student will design a multimedia presentation.

Standard 9.0

The student will examine the new and emerging technologies.

Standard 10.0

The student will examine network, hardware, software, and programming applications.

Standard 11.0

The student will develop and demonstrate human relations, self-management, organizational and professional leadership skills.

Course Description:

This course is designed to develop computer technology skills. Students will use a variety of computer software and hardware tools and features of an electronic information network. Students will explore the, historical, social and ethical issues of using computer technology. The students will develop skills that will assist them with efficient production; accurate production analysis; management of information; and design and presentation of a multimedia project. (This course requires a computerized workstation for each student with operating system, word processing, database, spreadsheet presentation, networking resident software.)

Standard 1.0

The student will evaluate the impact and applications of computers in society.



Learning Expectations

The student will:

- 1.1 Analyze the impact of computer technology on individual lives and the business world. (Gateway English II 3.0)
- 1.2 Explore emerging computer technologies. (Gateway English II 2.0, 3.0)
- 1.3 Analyze different types of computer applications and the types of tools needed to complete each. (Gateway English II 3.0)
- 1.4 Explore the use of computers in business, recreation, and entertainment. (Gateway English II 2.0, 3.0)

Student Performance Indicator: Evidence Standard Is Met

The student:

-  Compares and contrasts the benefits and limitations of computer technology in business, education, recreation, and entertainment.
-  Examines and reports on current trends through the use of videos, Internet, magazines, newspapers, etc.

Sample Performance Task

In assigned work groups, research and identify ways technology affects each team member.

Integration/Linkages

All subject areas, SCANS (*The Secretary's Commission on Achieving Necessary Skills*), National Standards for Business Education, Policy Commission for Business and Economic Education, National Science Education Standards, National

Standards for Business Education, Business Professionals of America *Work Place Skills*, Future Business Leaders of America National Competencies, Delta Pi Epsilon, National Math Standards, National Language Arts Skills Standards, National Educational Technology Standards, Data Processing Management Association, International Association of Administrative Professionals, Gateway Algebra I, and Gateway English II

Standard 2.0









The student will apply skills appropriate to the resident operating system.

The student will:



- 2.1 Operate the keyboard by using the touch system.
- 2.2 Apply the touch system to develop basic keyboarding skills on the alphabetic, numeric, and special characters on the keyboard.
- 2.3 Analyze and illustrate use of operating system commands. (Gateway English II 2.0, 3.0)
- 2.4 Analyze components and functions of the operating system. (Gateway English II 2.0, 3.0)
- 2.5 Demonstrate operating system commands.
- 2.6 Demonstrate proficiency in the care and operation of computer technology.

Student Performance Indicator: Evidence Standard Is Met

The student:

-  Applies correct body and hand position for keyboarding.
-  Uses the proper technique system to reach the alphabetic, numeric and special characters keys.
-  Demonstrates the features of the operating system
-  Utilizes the operating system environment to:
 -  Analyze the types of files shown in a directory.
 -  Create directories (folders) and sub directories.
 -  Rename existing files and directories (folders).
 -  Save or move files to a variety of storage media.

Sample Performance Task

-  Use a technique check sheet to evaluate proper technique at the keyboard.
-  The student will use components and functions of the resident operating system.

Integration/Linkages

All subject areas, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, National Science Education Standards, National Standards for Business Education, Business Professionals of America *Work Place Skills*, Future Business Leaders of America National Competencies, Delta Pi Epsilon, National Math Standards, National Language Arts Skills Standards, National Educational Technology Standards, Data Processing Management Association, International Association of Administrative Professionals, Gateway Algebra I, and Gateway English II

Standard 3.0

The student will research and apply knowledge of ethical and legal issues within the industry.








Learning Expectations

The student will:

- 3.1 Demonstrate work ethics that include integrity, honesty, and perseverance that meet industry standards.
- 3.2 Research benefits and consequences resulting from the practice of business ethics. (Gateway English II 2.0)
- 3.3 Observes copyright laws and their applications to text, visual art, design, music, and photography. (Gateway English II 2.0)
- 3.4 Research legal responsibilities associated with the use of the Internet as required by federal and state government agencies. (Gateway English II 2.0, 3.0)

Student Performance Indicators: Evidence Standard is Met

The student:

-  Applies ethical conduct providing the proper credit to those whose ideas and content has been used in creating interactive multimedia projects.
-  Demonstrates ethical behaviors in what is written, spoken, or presented in designing and presenting a multimedia project.
-  Applies knowledge of copyrights in seeking formal permission from copyright sources before using materials.
-  Recognizes the legal implications of violating federal and state laws in multimedia/digital publishing.
-  Demonstrates legal responsibilities using the Internet for interactive multimedia projects.
-  Demonstrate skills necessary for safety and environmental protection in digital design and photography.
-  Develop a virtual presentation on ethical and legal issues that could be posted on the Web.

Sample Performance Task

Design and produce an interactive multimedia project on legal and ethical issues, including issues and penalties for plagiarism; the importance of attribution; the determination of need to receive permission to copy data; and the process for obtaining permission. Provide attribution and obtain formal permission, when needed, for use of quotations, art forms, designs, music, and photographs. Develop and present a total team interactive multimedia project utilizing various technology components.

Integration/Linkages

All subject areas, SCANS, National Standards for Business Education, Policy Commission for Business and Economic Education, National Science Education Standards, National Math Standards, National Language Arts Skills Standards, National Educational Technology Standards (NETS), Data Processing Management Association (DPMA), International Association of Administrative Professionals (IAAP), Gateway Algebra I, and Gateway English II

Standard 4.0

The student will research and apply typography, layout, design, and composition concepts and guidelines for preparation of documents.

Learning Expectations








The student will:

- 4.1 Analyze composition processes. (Gateway English II 1.0, 2.0, 3.0, 4.0)
- 4.2 Analyze principles of typography. (Gateway English II 1.0, 2.0, 3.0)
- 4.3 Illustrate how to apply typographical commands to text.
- 4.4 Evaluate the effectiveness of typography in publications. (Gateway English II 1.0, 2.0, 4.0)
- 4.5 Compare and contrast the typography from at least two print sources: (Gateway English II 1.0, 2.0, 3.0, 4.0)
 - a. composition techniques
 - b. different typestyles.
 - c. variations in justification.
- 4.6 Analyze layout principles. (Gateway English II 3.0)
- 4.7 Analyze principles of design: (Gateway English II 3.0; Gateway Algebra I 5.0)
 - a. special effects techniques
 - b. thumbnail sketches
 - c. guides, rulers, scales, menus, pallets
 - d. text alignment, element positioning, rules of page design for printed text
 - e. margins, gutters, tabs, letter spacing, tracking, leading and headings
 - f. columnar grid setup
 - g. style formulation



- h. master page construction
- i. spot color and process color to text and graphics
- 4.8 Illustrate gradations in shapes and blend colors. (Gateway Algebra I 5.0)
- 4.9 Illustrate methods of importing and exporting text and graphics. (Gateway English II 3.0)

Student Performance Indicators: Evidence Standard is Met

The student:

-  Prepares a layout using typography specifications.
-  Applies layout and design principles using original and/or imported graphics. (*Gateway Algebra 5.0*)
-  Applies spot color to graphics and text.
-  Applies typographical commands to text.
-  Rotates text and graphics. (*Gateway Algebra 5.0*)
-  Proofs, edits, resizes, crops/manipulates copy and graphics. (*Gateway Algebra 2.0*)
-  Prints or publishes hard copy that meets publication and design standards.

Sample Performance Task

-  Have students illustrate at least three font technologies. Using different backgrounds compare and contrast the typography of each.
-  Assigned to teams, key and format a publication announcing a fundraising activity,

Integration/Linkages

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Standard 5.0

The student will accurately create a variety of word processing documents.

Learning Expectations

The student will:

- 5.1 Compare and contrast the uses of word processing and desktop publishing software. (Gateway English II 1.20, 2.0, 3.0, 4.0)
- 5.2 Apply accurate formatting skills to a variety of documents such as academic course work and business and industry materials. (Gateway English II 3.0)
- 5.3 Use appropriate capitalization, punctuation, number expression rules, and editing/proofreading skills to produce mailable documents. (Gateway English 1.0, 2.0, 3.0)

Student Performance Indicators: Evidence Standard Is Met

The student:



- Inputs and formats documents for a specific communication project.
- Demonstrates document productivity by using appropriate proofreading skills and editing skills.

Sample Performance Task

The student will compose and format a one-page report on the topic: *How Computers are used in a Career of Interest.*

Integration/Linkages

All subject areas, SCANS (*The Secretary's Commission on Achieving Necessary Skills*), National Standards for Business Education, Policy Commission for Business and Economic Education, National Science Education Standards, National Standards for Business Education, Business Professionals of America *Work Place Skills*, Future Business Leaders of America National Competencies, Delta Pi Epsilon, National Math Standards, National Language Arts Skills Standards, National Educational Technology Standards, Data Processing Management Association, International Association of Administrative Professionals, Gateway Algebra I, and Gateway English II

Standard 6.0

The student will create and design spreadsheets to produce and format data.






Learning Expectations

The student will:

- 6.1 Recognize the advantages of spreadsheets.
- 6.2 Explain the functions and terminology of spreadsheet software. (Gateway English II 1.0, 2.0; Gateway Algebra I 1.0, 2.0)
- 6.3 Input, edit, and format cell contents. (Gateway English II 1.0, 2.0, 3.0, 4.0; Gateway Algebra I 1.0, 3.0)
- 6.4 Analyze formulas. (Gateway English II 3.0; Gateway Algebra I 2.0, 3.0)
- 6.5 Create graphs. (Gateway Algebra I 3.0, 5.0)

Student Performance Indicators: Evidence Standard Is Met

The student:

-  Demonstrates the functions and terminology of spreadsheet software.
-  Creates spreadsheets using appropriate inputting, editing, and formatting skills.
-  Develops and applies formulas.
-  Incorporates graphic elements.
-  Set up print specifications and print.

Sample Performance Task

Divide the class into groups of two and have them create a spreadsheet with given information concerning an organization fundraising activity.

Integration/Linkages

All subject areas, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, National Science Education Standards, National Standards for Business Education, Business Professionals of America *Work Place Skills*, Future Business Leaders of America National Competencies, Delta Pi Epsilon, National Math Standards, National Language Arts Skills Standards, National Educational Technology Standards, Data Processing Management Association, International Association of Administrative Professionals, Gateway Algebra I and Gateway English II

Standard 7.0

The student will develop database skills to organize and maintain information.




Learning Expectations

The student will:

- 7.1 Assess the advantages of database management as a method for organizing data.
- 7.2 Describe the functions of database software and identify related terminology. (Gateway English II 2.0, 3.0)
- 7.3 Plan and create a database. (Gateway English II 1.0, 3.0; Gateway Algebra I 2.0)
- 7.4 Input, sort, search, edit, and update data. (Gateway English II 3.0)
- 7.5 Create a database report. (Gateway English II 3.0; Gateway Algebra I 2.0)

Student Performance Indicators: Evidence Standard Is Met

The student:

-  Constructs databases using appropriate inputting, formatting, and editing skills.
-  Searches and sorts database for specific information.
-  Creates and formats database reports.

Sample Performance Task

The student will design a database given specific contact demographic data for a fundraising activity.

Integration/Linkages

All subject areas, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, National Science Education Standards, National Standards for Business Education, Business Professionals of America *Work Place Skills*, Future Business Leaders of America National Competencies, Delta Pi Epsilon, National Math Standards, National Language Arts Skills Standards, National Educational Technology Standards, Data Processing Management Association, International Association of Administrative Professionals, Gateway Algebra I, and Gateway English II

Standard 8.0

The student will design a multimedia presentation.





Learning Expectations

The student will:

- 8.1 Use software packages for multimedia and observe operating procedures. (Gateway English II 3.0)
- 8.2 Appraise the basic concepts of interactive multimedia design.
- 8.3 Critique multimedia presentations and discuss the strengths and weaknesses of the presentation. (Gateway English II 1.0, 3.0, 4.0)
- 8.4 Identify equipment and software requirements necessary to make a multimedia presentation. (Gateway English II 3.0)
- 8.5 Develop a storyboard. (Gateway Algebra I 5.0)
- 8.6 Design, create, and present a multimedia presentation within the framework of copyright laws. (Gateway English II 1.0, 2.0, 3.0; Gateway Algebra I 5.0)

Student Performance Indicators: Evidence Standard Is Met

The student:

-  Create a ten-slide multimedia presentation applying inputting, formatting, and editing skills.
-  Inserts and/or scans necessary graphics, digital clips, and/or video clips within the framework of copyright laws.
-  Print an outline and a copy of the audience handout with given number of frames to a page.
-  Deliver the presentation to a specific audience.

Student Sample Performance Task

The student will design an interactive multimedia presentation for recruitment of a co-curriculum student organization such as a computer science chapter, Business Professionals of America and/or Future Business Leaders of America. The presentation is designed for and presented to the 7th and 8th grade assembly.

Integration/Linkages

All subject areas, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, National Science Education Standards, National Standards for Business Education, Business Professionals of America *Work Place Skills*, Future Business Leaders of America National Competencies, Delta Pi Epsilon, National Math Standards, National Language Arts Skills Standards, National Educational Technology Standards, Data Processing Management Association, International Association of Administrative Professionals, Gateway Algebra I, and Gateway English II

Standard 9.0

The Student will examine new and emerging technologies.



Learning Expectations

The student will:

- 9.1 Forecast future trends using knowledge of current technology. (Gateway Algebra I 4.0)
- 9.2 Compare and contrast potential changes in technologies, lifestyles, and employment needs. (Gateway English II 1.0, 4.0)
- 9.3 Discuss emerging technology, such as handheld devices, voice and handwriting recognition. (Gateway English II 2.0, 3.0, 4.0)

Student Performance Indicators: Evidence Standard is Met

The student:

-  Researches emerging trends in the field of computer technology, related applications, and potential employment opportunities.
-  Predict and assess emerging trends in computers, communication, and business.

Sample Performance Task

Prepare a presentation that shows the on the emerging technologies.

Integration/Linkages

All subject areas, US and Tennessee Departments of Labor Statistics, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, National Science Education Standards, National Standards for Business Education, Business Professionals of America *Work Place Skills*, Future Business Leaders of America National Competencies, Delta Pi Epsilon, National Math Standards, National Language Arts Skills Standards, National Educational Technology Standards, Data Processing Management Association,

Standard 10.0

The student will examine network, hardware, software, and applications.








Learning Expectations

The student will:

- 10.1 Compare and contrast types of networks, considering definition, benefits, and types. (Gateway English II 1.0, 2.0, 3.0, 4.0)
- 10.2 Identify the basic components of a communication system: (Gateway English II 3.0)
 - a. hardware
 - b. compare programming languages
 - c. software
- 10.3 Differentiate the Internet and an intranet. (Gateway English II 1.0, 2.0, 3.0, 4.0)
- 10.4 Explain how Internet services work. (Gateway English II 1.0, 2.0, 4.0)
- 10.5 Analyze network and Internet etiquette, security, privacy, and copyright issues. (Gateway English II 2.0, 3.0)

Student Performance Indicators: Evidence Standard is Met

The student:

-  Appraises the basic components of communications systems.
-  Diagrams a communications system incorporating various hardware devices.
-  Distinguishes between the Internet, intranet, and the World Wide Web.
-  Practices proper Internet etiquette, security, privacy, and copyright laws.
-  Utilizes the Internet/intranet for electronic communication and research.
-  Evaluates the validity of information received through the Internet.
-  Complies with all security, privacy, and copyright laws and regulations.

Sample Performance Task

Divide the students into groups. Each group will research, prepare, and make a report on the different communicating systems. Each group will apply etiquette, security, privacy, and copyright laws and regulations. The report should include text, graphics, digital clips, database information and numerical data relating to the findings. Mailable standards will be applied to this project. Remind each group member of his or her responsibilities and roles as a group member.

Integration/Linkages

All subject areas, *SCANS (The Secretary's Commission on Achieving Necessary Skills)*, National Standards for Business Education, Policy Commission for Business and Economic Education, National Science Education Standards, National Standards for Business Education, Business Professionals of America *Work Place Skills*, Future Business Leaders of America National Competencies, Delta Pi Epsilon, National Math Standards, National Language Arts Skills Standards, National Educational Technology Standards, Data Processing Management Association, International Association of Administrative Professionals, Gateway Algebra I, and Gateway English II

Standard 11.0

The student will develop and demonstrate human relations, self-management, organizational, and professional leadership skills.


Learning Expectations








The student will:

- 11.1 Examine the value of leadership skills and confidence through personal reflection.
- 11.2 Assess image building and public relations techniques.
- 11.3 Assess decision-making skills.
- 11.4 Demonstrate effective teamwork. (Gateway English II 4.0)
- 11.5 Apply parliamentary procedure skills in group activities.
- 11.6 Demonstrate effective teamwork and group thinking applying problem solving, decision making, and conflict resolution techniques. (Gateway English II 4.0)
- 11.7 Examine the goals and apply the principles of a co-curricular student organization. (Gateway English II 4.0)

Student Performance Indicators: Evidence Standard is Met

The student:

-  Researches, analyzes, composes, keys, formats, and prints a report on the attributes of a leader.

-  Applies effective image-building and public relations techniques.
-  Designs, writes formulas, keys and formats financial data for the local chapter in a spreadsheet.
-  Organizes and manages a team presentation on leadership.
-  Demonstrates parliamentary procedure skills through group activities.
-  Participates in a mock Business Professionals of America, Computer Science Club, and/or Future Business Leaders of America, meeting.
-  Makes a two-minute oral report on attributes of a leader.
-  Participates in a mock Computer Science, Business Professionals of America and/or Future Business Leaders of America organization meeting.

Sample Performance Task

Divide the students into groups. Each group will work on a different segment of the Computer Science, Business Professionals of America and/or Future Business Leaders of America organization annual report. Assign each group one of the four major applications to complete this project. The report should include text, graphics, digital clip(s), database information, and numerical data relating to the chapter's activities. Mailable standards will be applied to this project. Remind each group member of his or her responsibilities and role as a group member.

Integration/Linkages

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